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(71) Applicant: <b>PAVILION TECHNOLOGIES, INC. [US/US]; Suite 700, 11100 Metric Boulevard, Austin, TX 78758 (US).</b>			
(72) Inventors: <b>KEELER, James, D.; 12701 Shemya Cove, Austin, TX 78729 (US). PLUMER, Edward, S.; 120 River Road, Georgetown, TX 78628 (US). ELLINGER, Joshua, Brennan; 1622 Waterston Avenue, Austin, TX 78703 (US).</b>			
(74) Agent: <b>HOLLAND, Robert, W.; Baker &amp; Botts, L.L.P., 2001 Ross Avenue, Dallas, TX 75201-2980 (US).</b>			

**(54) Title: METHOD AND SYSTEM FOR MONITORING AND CONTROLLING A MANUFACTURING SYSTEM**

**(57) Abstract**

Neural network models interface with distributed control systems associated with a manufacturing facility for performing a manufacturing facility. The neural network models receive measured variables of the manufacturing process to predict process performance data, and provide the performance data on a real-time basis to a communications server. A graphical user interface communicates over a network, such as the Internet or a corporate Intranet, to receive the real-time performance data, including performance metrics such as key performance real-time analyzers, for presentation to aid managers in making decisions regarding the manufacturing process. The communications server also interfaces with an off-line model engine to transfer the neural network model and real-time performance data for analysis on the off-line engine. Object oriented box transforms enhance publication and subscription of the performance data from the neural network models.

